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have been preserved, and this is the part of the state in which one would look for the typical form, the problem of determining the species that formerly inhabited this region is not an easy one to solve.

The northern limit of the range of the typical form has only been vaguely given by the different authorities. Thus Hahn¹ says "from the region of the Great Lakes," Rhoads² states that it occurs "from southern New York and Michigan," and Seton³ gives it approximately the two southern tiers of Michigan counties in his map of the range of the species. Apparently none of these statements are based upon definite information, as we have been unable to find any specimens or information that would lead us to believe that the typical form ever occurred in Michigan even in the southernmost counties.

There are two skulls from Wexford county in the museum that are evidently to be referred to variety *borealis*, the lower row of cheek teeth measuring 83 mm.⁴ in one and 79 mm. in the other, which has not yet acquired the rear lobe of the third molar. This confirms the opinion held by most writers that the northern form is found in the northern part of the lower peninsula. There are also in the collection, however, a skull from Livingston County (No. 5240) and sub-fossil jaws from Washtenaw County (No. 42,532) and Branch County (No. 42,531) in which the lower row of cheek teeth measures 83 mm., 82 mm. and 90 mm., respectively. These specimens with the statements of former residents⁵ of Washtenaw and Wayne counties that the deer of these counties had a gray coat in winter seems to constitute pretty clear evidence that the variety *borealis* formerly ranged

¹ Hahn, W. L., "The Mammals of Indiana," 33d Ann. Rept. Indiana Dept. of Geology and Natural Resources, 1908, p. 458.

² Rhoads, S. N., "The Mammals of Pennsylvania and New Jersey," 1903, p. 24.

³ Seton, Ernest Thompson, "Life-Histories of Northern Animals," 1909, p. 75.

⁴ The length measured along the grinding surface of the teeth.

⁵ See "Michigan Pioneer and Historical Collections," Vol. IV., p. 486 *et seq.*, and p. 542.

clear to the southern boundary of the state to the exclusion of the typical form.

ALEXANDER G. RUTHVEN,
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MUSEUM OF NATURAL HISTORY

THE FLORA BRASILIENSIS

TO THE EDITOR OF SCIENCE: Referring to the note regarding the set of the "Flora Brasiliensis" recently acquired by the University of Illinois and the statement that it is the fourth obtained by American libraries, the others being at Harvard, Columbia and the Shaw Botanical Gardens,¹ it may be worth while to state that there is a complete set in the library of the Academy of Natural Sciences of Philadelphia, the volumes issued prior to the abdication of Dom Pedro II. having been received as a gift from him in evidence of his appreciation of the attentions shown him by the academy in 1876, during his attendance on the Centennial Exposition.

A detailed account of the emperor's visit will be found in my "History of the Academy."

EDW. J. NOLAN,
Secretary and Librarian

TO THE EDITOR OF SCIENCE: In your department of "Scientific Notes and News" of April 26, 1912, there is a statement that the set of "Flora Brasiliensis," which has just been added to the natural history library of the University of Illinois makes the fourth set obtained by American libraries, "others being at Harvard, Columbia and the Shaw Botanical Gardens." Will you kindly mention the fact in SCIENCE that the library of the Ohio State University has a complete set of "Flora Brasiliensis"? In the very early days of the university the first parts of the "Flora" were presented to the university by Mr. William S. Sullivant, of Columbus, with the understanding that the university would keep up the subscriptions. This was done and the parts as issued were received regularly by the university library. On the completion of the

¹ SCIENCE, XXXV., No. 904.

work it was bound in volumes, making a very handsome as well as valuable set.

OLIVE JONES,
Librarian

AN EXPERIMENT ON A FASTING MAN

THERE was completed at this laboratory on May 15 a successful 31-day experiment during complete inanition, the subject drinking 900 c.c. of distilled water per day. Elaborate measurements of the gross metabolism as indicated by the carbon dioxide production, oxygen consumption, water vaporized and heat elimination were made on each day. Continuous records of rectal temperature, pulse rate, respiration rate, ventilation of the lungs, blood pressure, microscopic blood examination, careful clinical examinations, anthropometric measurements and psychological tests were a part of each day's routine. Photographs of the subject at stated times and X-ray plates at the conclusion of the fast were secured. Complete urine analyses were also made throughout the 31 days. The mass of data will require several months for complete and verified computation.

Newspapers and magazines, actuated only by the sensational element, have used every means to secure advance statements, and in some instances have issued "faked" statements, regarding this experiment. The results will be presented only in the publications of the Carnegie Institution of Washington or in the regularly accredited scientific journals, and any prior statements purporting to be made by me or signed by the subject, A. Levanzin, are to be disregarded.

FRANCIS G. BENEDICT

NUTRITION LABORATORY OF THE
CARNEGIE INSTITUTION OF WASHINGTON,
BOSTON, MASS.,
May 15, 1912

SCIENTIFIC BOOKS

The Pines of Australia. By RICHARD BAKER and HENRY G. SMITH. Technical Education Series, No. 16. Sydney, 1910.

The present publication of the department of public instruction of the state of New South Wales is a memoir of over four hun-

dred and fifty pages, copiously illustrated by means of photographs and photomicrographs and accompanied by two maps showing the distribution of the "Pines." Many of the illustrations represent more or less accurately the appearance of stained microscopic sections reproduced by the three-color process. It seems questionable even in a semi-popular work like the present to use the term "Pines" to represent the Conifers as a whole. Such an appellation is almost sure to lead to misconceptions on the part of the reader, particularly in the southern hemisphere, where true pines are conspicuous by their absence. The authors are at some disadvantage on account of the multifariousness of the task they have set themselves, for they aim to include in their account of these trees, their systematic relations, the history of the names given them, their morphology and anatomy, their useful products, including the chemistry of some of these and finally their geographical distribution. This appears to be too large a field to be covered successfully or fully, even by the collaboration of a chemist and a botanist.

Under the head of morphology and anatomy are recorded observations as to the significance of the "spur" of the cone scale of the genus *Callitris* and the probable function of the central columella in the cone of the same genus. It is noted that the chemical products, particularly the resinous ones of species which resemble one another morphologically are very strikingly similar. Attention is called to the presence of manganese compounds in the parenchymatous cells of the wood of *Callitris* and other genera. The manganese content in some cases is very considerable. The value and nature of the tannins and sandarac resins of *Callitris* are discussed and similar accounts are given of the gums, resins and oils of the other coniferous genera of the Australian flora.

The volume concludes with appendices on the systematic value of the chemical products of plants, on the distribution of Australian conifers, and on the collaborators, who have assisted in various ways in the preparation of the work. There are likewise several good